

REMARKS

This responds to the Office Action dated October 28, 2005, and the references cited therewith.

Claims 1 and 42 are amended, no claim is canceled, and no claims are added; as a result, claims 1-25 and 35-50 remain pending in this application. Support for the amendments are found in the specification, including the portion at page 8, lines 1-21.

§112 Rejection of the Claims

Claims 1-25 and 35-50 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant has amended independent claim 1 to more clearly recite the claimed subject matter. It is believed that this amendment is effective to address the § 112 rejection as to claims 1-12.

The Office Action does not appear to clearly set forth the grounds for the § 112 rejection as to claims 13-25 and 35-50. Applicant respectfully requests withdrawal of the rejection or clarification and a full opportunity with which to respond.

§102 Rejection of the Claims

Claims 1-11, 13-25, 42, 43 and 45-50 were rejected under 35 U.S.C. § 102(b) as being anticipated by Malmqvist et al. (U.S. Patent No. 5,965,456 A) (hereinafter “Malmqvist”).

Notwithstanding the amendment of claims 1 and 42, Applicant respectfully traverses the rejection and submits that *prima facie* anticipation has not been established. In particular, Applicant is unable to find, in Malmqvist, a teaching or disclosure of all elements recited in the claims. For example, Applicant is unable to find, in Malmqvist, a teaching or disclosure of a first wall and a second wall of said duct, said first wall and said second wall are transparent, as recited in claim 1. The Office Action refers to a portion at column 5 however, Applicant finds no support for such a teaching therein. Indeed both the Office Action and Malmqvist appear silent as to details relating to the lower portion of Malmqvist FIG. 2.

Furthermore, Applicant is unable to find, in Malmqvist, a teaching or disclosure of

a substantially parallel gap formed by a first wall and a second wall of said duct, as recited in claim 1. The Office Action appears silent as to such a teaching or disclosure.

As to claim 13, Applicant is unable to find, in Malmqvist, a teaching or disclosure of a second translucent plate, as recited in the claim. The Office Action appears silent as to such a teaching or disclosure.

As to claim 42, Applicant is unable to find, in Malmqvist, a teaching or disclosure wherein said chamber means has a gap approximately equal to or less than the wavelength of said incident light beam, as recited in the claim. The Office Action appears silent as to such a teaching or disclosure.

The Office Action asserts that “the apparatus comprises a thin gold film . . . having a thickness of about 47 nm within the flow channel . . . thus . . . it is inherently anticipated that the gap or channel width would be in the range of between 50 and 1000 nm.” Applicant respectfully traverses this assertion and reliance on inherency. The Office Action has not met the burden of reliance on inherency as set forth in M.P.E.P. 2112 requiring that the examiner provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. Here it is unclear how a thickness of a gold film relates to the thickness of the gap. Withdrawal of the assertion is respectfully requested.

For at least these reasons, Applicant submits that *prima facie* anticipation has not been established.

§103 Rejection of the Claims

Claims 12 and 44 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Malmqvist in view of Bamdad et al. (U.S. Patent No. 5,620,850 A) (hereinafter “Bamdad”).

Applicant respectfully traverses the rejection and submits that *prima facie* obviousness has not been established. In particular, Applicant is unable to find, in the proposed combination of Malmqvist and Bamdad, a teaching or suggestion of all elements recited in independent claims 1 and 42 from which claims 12 and 44 depend, as set forth above. The addition of Bamdad is ineffective to teach or suggest those elements not found in Malmqvist alone. In addition, Applicant submits that the required motivation or suggestion to pursue the proposed

combination has not been made of record. The Office Action discussion referring to “a known material” does not satisfy the requirement of setting forth motivation or suggestion.

Applicant notes that both Malmqvist and Bamdad refer to surface plasmon resonance and neither appears to teach photon tunneling as described by the present subject matter. Selected shortcomings of surface plasmon resonance are noted in the background of the instant application. In particular, surface plasmon resonance uses a single interface having a metal layer to support the surface electromagnetic wave. In contrast to surface plasmon resonance, the present subject matter does not require a metal layer and instead operates based on a small optical gap having two interfaces.

Accordingly, it appears that the obviousness rejection is improper and reconsideration and allowance is respectfully requested.

Claims 35-41 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Malmqvist. Applicant respectfully traverses and submits that *prima facie* obviousness has not been established. In particular, Applicant submits that Malmqvist in combination with the knowledge of one of skill in the art does not teach or suggest all recited elements for at least the reasons noted earlier. In addition, Applicant submits that the required motivation or suggestion to combine or modify has not been made of record. The Office Action asserts “it would have been obvious . . . as such is the intended operation of that apparatus.” Such reasoning falls short of meeting the Examiner’s burden. In particular, Malmqvist, as noted above refers to surface plasmon resonance and has not been shown to relate to photon tunneling as claimed.

Applicant respectfully requests reconsideration and allowance of the pending claims.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6911 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date January 30, 2006

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 30th day of January, 2006.

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